CLAIMS

I/We claim:

1. A system for controlling throttle position comprising:

a throttle assembly having a throttle plate movable between open and closed positions;

a motor coupled to the throttle plate to control a position of the throttle plate;

a controller having a pulse width modulator configured to generate a control signal;

a motor driver electrically coupled to the controller to receive the control signal therefrom and manipulate the motor based on the control signal;

wherein the control signal includes a magnitude component corresponding to an amount of change in throttle position, a direction component corresponding to a direction of the change in the throttle position, and a disabled component providing the ability to disable the motor.

2. The system according to claim 1, wherein the magnitude component of the control signal is based on a duty cycle range.

3. The system according to claim 1, wherein the direction component of the control signal is based on a duty cycle range.

4. The system according to claim 1, wherein the disabled component of the control signal is based a duty cycle range.

5. The system according to claim 1, wherein the motor driver is configured to drive the motor in the first direction if the control signal has a duty cycle within a first duty cycle range.

6. The system according to claim 5, wherein the motor driver is configured to drive the motor in a second direction if the control signal has a duty cycle within a second duty cycle range.

7. The system according to claim 6, wherein the second duty cycle range contains a lowest duty cycle that is greater than a highest duty cycle included in the first duty cycle range.

8. The system according to claim 5, wherein the first duty cycle range is about 1-50% duty cycle.

9. The system according to claim 6, wherein the second duty cycle range is about 50-99% duty cycle.

10. The system according to claim 6, wherein the motor driver is configured to disable the motor, if the duty cycle of the control signal is within a third duty cycle range.

11. The system according to claim 10, wherein the third duty cycle range is outside of both the first duty cycle range and the second duty cycle range.

12. The system according to claim 11, wherein the third duty cycle range is greater than about 99% duty cycle.

13. The system according to claim 11, wherein the third duty cycle range is less than about 1% duty cycle.

14. The system according to claim 10, wherein the motor driver is configured to disable the motor, if the duty cycle of the control signal is within a fourth duty cycle range.

15. The system according to claim 14, wherein the fourth duty cycle range is outside both of said first duty cycle range and the second duty cycle range.

16. The system according to claim 15, wherein the fourth duty cycle range is less than about 1% duty cycle.

17. The system according to claim 15, wherein the fourth duty cycle range is greater than about 99% duty cycle.

18. A method of controlling the position of a throttle assembly using a single signal, comprising:

providing a throttle assembly having a throttle plate coupled to a motor;

generating a single control signal having a magnitude, direction, and disable component;

receiving the control signal in a motor driver;

controlling the position of the throttle plate by driving the motor with the motor driver; and

wherein the magnitude component corresponds to an amount of change in throttle position, the direction component corresponds to a direction of the change in the throttle position, and the disable component provides the ability to disable the motor.

19. The method according to claim 18, wherein the magnitude component of the control signal is based on a duty cycle range.

20. The method according to claim 18, wherein the direction component of the control signal is based on a duty cycle range.

21. The method according to claim 18, wherein the disabled component of the control signal is based a duty cycle range.

22. The method according to claim 18, further comprising driving the motor in a first direction, if the control signal has a duty cycle within a first duty cycle range.

23. The method according to claim 22, further comprising driving the motor in a second direction, if the control signal has a duty cycle within a second duty cycle range.

24. The method according to claim 23, wherein the second duty cycle range contains a lowest duty cycle that is greater than a highest duty cycle included in the first duty cycle range.

25. The method according to claim 22, wherein the first duty cycle range is about 1-50% duty cycle.

26. The method according to claim 22, wherein the second duty cycle range is about 50-99% duty cycle.

27. The method according to claim 22, further comprising disabling the motor, if the duty cycle of the control signal is within a third duty cycle range.

28. The method according to claim 27, wherein the third duty cycle range is outside of both the first duty cycle range and the second duty cycle range.

29. The method according to claim 28, wherein the third duty cycle range greater than about 99% duty cycle.

30. The method according to claim 28, wherein the third duty cycle range is less than about 1% duty cycle.

31. The method according to claim 27, further comprising disabling the motor, if the duty cycle of the control signal is within a fourth duty cycle range.

32. The method according to claim 31, wherein the fourth duty cycle range is outside both of said first duty cycle range and the second duty cycle range.

33. The method according to claim 32, wherein the fourth duty cycle range is less than about 1% duty cycle.

34. The method according to claim 32, wherein the fourth duty cycle range is greater than about 99% duty cycle.